Radio: The Press Wireless Era

PW's Transmitters Filled the Shortwave Spectrum With News Stories, Sent Around the World

BY ALICE BRANNIGAN

In the January issue, we covered the Press Wireless, Inc. (PREWI, or just PW) wartime telegraph stations PX and PY. Located in the Philippines, they were used as press feeds for American war correspondents to file their stories in a timely manner. *POP'COMM* reader Forrest Bartlett, W6OWP, was one of the key PW technical people at PW, and he furnished that interesting story.

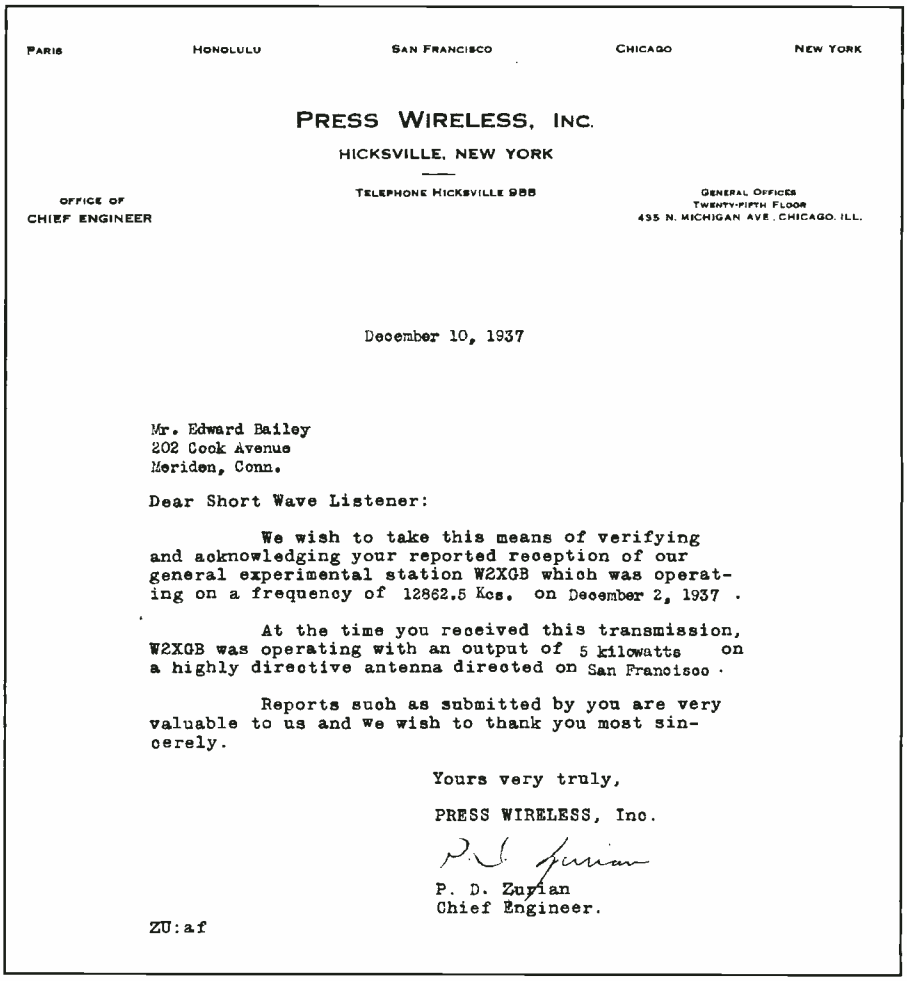
In a wider sense, the entire PW company, itself, was a unique and remarkable communications operation. The late Donald K. deNeuf, WA1SPM, who had been President of PW for many years, once furnished our archives with information about PW. Here's what he told us.

As early as WWI (1914-1918), the news media realized that international telecommunications facilities were inadequate to handle the rapid transmission of news dispatches. In 1920, a group of concerned publishers formed the American Publisher's Committee on Cable and Radio Communications, which, a year later, decided to enter the communications business.

The British Post Office agreed to place a longwave transmitter at the disposal of press interests. The Committee opened another station at Halifax, Nova Scotia, Canada, to receive the London signals. Halifax was selected because it was a good location for longwave reception, and also there would have been problems trying to establish the station in the USA. The problems involved U.S. Patents, which were owned by large communications companies, that prevented APC from purchasing many types of equipment in the States!

Traffic received at Halifax was turned over to a landline telegraph company for delivery to U.S. addressees. This was expensive, and inserted a delay factor. APC then discussed radio licenses in the USA with the Federal Radio Commission. As a result, in 1929, Press Wireless, Inc., was formed by a group of newspapers. It was licensed to handle press material on numerous shortwave frequencies.

PW's first station opened in 1930. This was WJK, Needham, Mass. It was used to communicate with Halifax, thereby cutting the landline telegraph company expenses and delay out of the PW loop. PW then began expanding its facilities. Stations were constructed in 1932 at Hicksville and Little Neck, in New York, at San Francisco, and Honolulu. Often imported tubes had to be sent for use in the transmitters to circumvent U.S. Patent restrictions.



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December 10, 1937

Mr. Edward Bailey
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Dear Short Wave Listener:

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At the time you received this transmission, W2XGB was operating with an output of 5 kilowatts on a highly directive antenna directed on San Francisco.

Reports such as submitted by you are very valuable to us and we wish to thank you most sincerely.

Yours very truly,

PRESS WIRELESS, Inc.

P. D. Zurian
Chief Engineer.

ZU:af

Staffed by many hams, Press Wireless was SWL-friendly. This SWL veri letter dates from 1937. (Courtesy Ed Bailey, Conn.)

Then, negotiations were carried out to lease French PTT transmitters and receivers, and for PW to conduct operations from its own office in Paris. Soon, many American newspapers and news services centralized their dispatches at Paris from other European cities in order to use this new rapid and direct PW service.

As PW grew, it assembled a staff of top engineers and operators. Many were hams. PW soon found itself serving news agencies of various nations, including AP, UP, Agence France Press, Reuters, ANSA, DPA, and others. It supplied the U.S. Information Service with transmission service to embassies around the world.

PW was often the first to develop and use new radio communications technologies, including FSK for both RTTY and radiophoto-FAX, and the *Duo-Plex* keying system which doubled the number of teleprinter channels over a single transmission circuit.

PW constructed hundreds of its own transmitters with powers as high as 50 kW. Some were also made world during WWII for the U.S. Army Signal Corps, and went into service all over the world. Years after WWII, former Army PW transmitters were

being used in Cuba by Fidel Castro's private circuit to Moscow! The *PW Model C* fixed frequency receivers popularly used for reception of PW's multiple-point presscasts and photocasts by news services.

It served 62 different countries. Each year, PW carried over 450-million words of textual material, 36,000 radiophotos, and 83,000 minutes of voice programs. At its 500-acre site in Centereach, N.Y., PW operated 47 transmitters, and had 70 different antennas. There were ten transmitters at Belmont, Calif. Diversity receiving equipment was used at both stations.

Although press transmissions were the primary function of PW, communications between many airline pilots and ground stations were handled through PW facilities. The company provided all of the HF transmission and receiving ground facilities for Aeronautical Radio, Inc. (ARINC), serving all airliners entering and leaving the USA.

In addition, the U.S. Weather Bureau awarded PW all of its weather FAX (WEFAX) map service from Washington to European and Pacific points. PW provided all of the leased teleprinter channels to the UN between its HQ in New York and several overseas points, including Geneva, Switzerland. The U.S. State Dept. private leased full-time teleprinter channel between Washington and Montevideo, Uruguay, was provided for many years using the transmitters of PW's subsidiary stations in Uruguay.

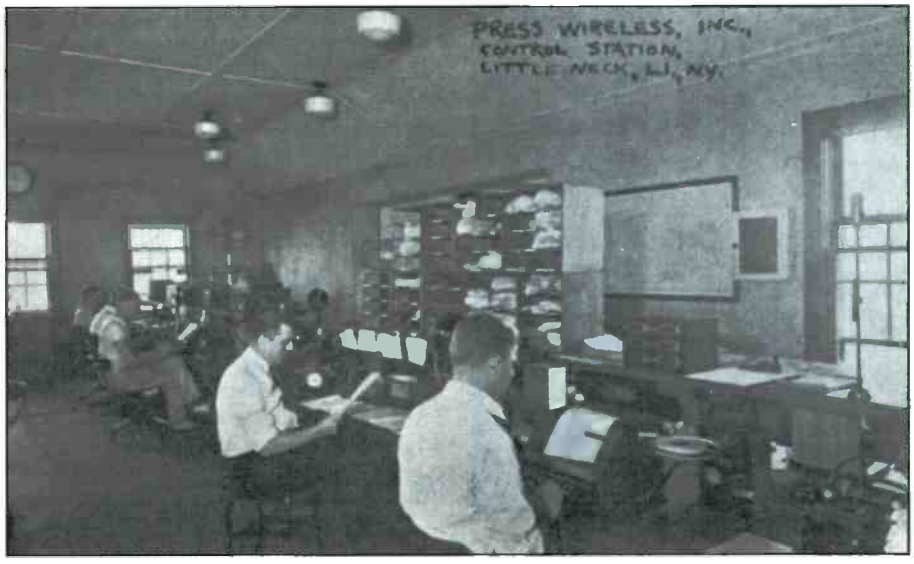
PW stations in California provided facilities for Japanese and Chinese press services. They accommodated the two ideographic languages by means of FAX systems inasmuch as teleprinter keyboards, of course, could not handle the characters required.

PW had reliability problems with its direct HF circuits between New York and Moscow. E-W paths ran close to the North Pole, which caused them to suffer propagation difficulties caused by the Aurora Borealis (Northern Lights). PW therefore developed two very effective and innovative alternate routes using automatic HF repeaters. One, which provided two N-S paths, used its Montevideo station. The other was a PW California relay using a circuit to a Soviet station in Khabarovsk, Siberia. These were the only circuits of their kind.

Many other challenges were successfully met by PW. In the January issue, we wrote about the company's WWII mission in the Philippines. When WWII broke out, PW sent a mobile station and staff with the invasion forces to handle press dispatches. Between the Normandy invasion in June, 1945, and the arrival in Berlin, the following July 1, PW had rolled 2,214 miles and made 24 set-up stops. It had strung 26,000 feet of antenna wire, operated 8,600 hours, transmitted more than eight-million words of press copy, and passed more than 400 voice programs to all U.S. radio networks.

Another PW challenge came during the 1962 "Cuban Missile Crisis." The UN's Director of Communications contacted PW on a Friday night with a request he suspected would be impossible to fulfill. First thing Monday morning he needed a complete UN radio teleprinter station ready to air ship to Cuba! This required gathering transmitters, receivers, terminal gear, generators, complete antenna systems, teleprinters with paper supplies, ribbons, and spare parts. PW delivered the station to the UN, on time. This "can do" philosophy endeared PW to its customers.

At is peak, PW had 100 HF radio transmitters operating in its own stations in New York, San Francisco, Manila, Rio de Janeiro, and Montevideo. It maintained press



Control room at the PW station, Little Neck, N.Y., during the 1930's.

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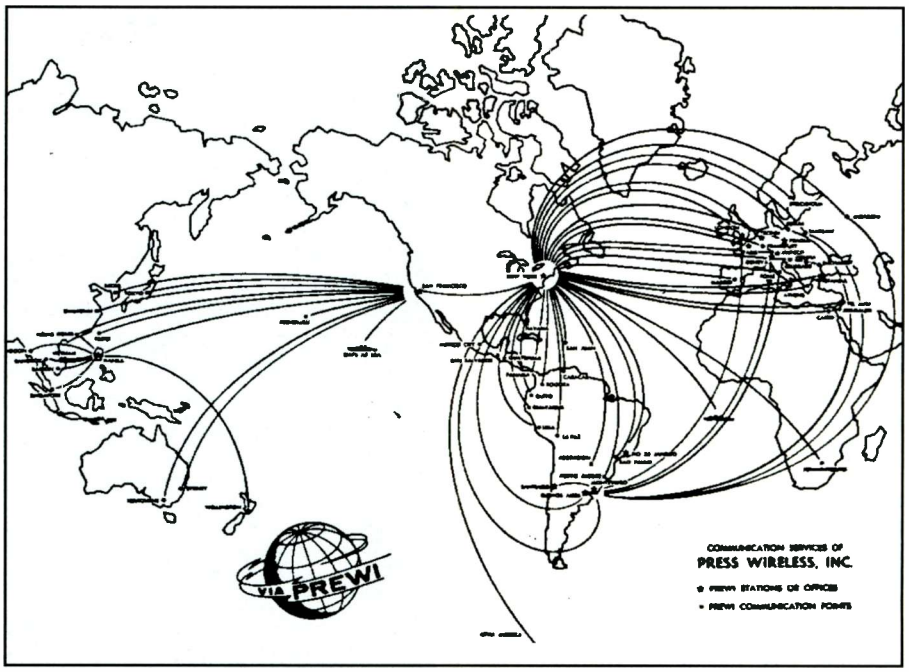
By 1964, changes began taking place in communications technology that would impact negatively upon business-as-usual at PW. This included wide-band underseas coaxial cables and geostationary satellites. Each year, literally hundreds of additional high-quality voice-grade channels began to be available to meet the needs of the world-wide information explosion, fed by computers and data processing. HF facilities began getting replaced by newer technologies and equipment.

The communications cost to users requiring full-time leased channels from the common carriers between virtually any two points on the globe had started to drop sharply. In 1965, PW was acquired by ITT World Communications. The facilities of PW soon began to be combined to be with and integrated into those of ITTWC.

This was the birth, life, and passing of Press Wireless, Inc. The fate of PW meant more than the loss if a company, it symbolized the end of an important, vital, and exciting era in HF communications. The *POP'COMM* offices are located a stone's throw from the former PW Hicksville site.



Map of Press Wireless, Inc. communication services. "VIA PREWI" was the company's often-seen traffic routing code.

Tripping the Lights Fantastic

The propagation headaches caused by the Aurora Borealis weren't a PW discovery, they had been experienced by others. One notable example on record concerns the scientific expedition of Commander Donald MacMillan to Baffin Island, in northern Canada. MacMillan was a well-known and intrepid Arctic explorer. He had gone to the North Pole with Peary in 1908. His expedition to Baffin Island, in the summer of 1931, was his fifteenth to the Arctic.

The 1931 Baffin expedition took place aboard the American schooner *Bowdoin*. The vessel's call letters were WDDE (ex-WNP). The *Bowdoin's* first Arctic excursion with a ham operator aboard was in 1923, when Donald Mix, W9AT, was the *sparks*. For its 1931 expedition, the *Bowdoin* was outfitted with a ten tube superhet receiver. The transmitter, built by Radio Officer Ralph Brooks, was of the push-pull tuned-plate, tuned-grid type, using 204A type tubes. There were two Delco lighting plants aboard. It was Ralph Brooks' intention to maintain expedition communications on 13240 kHz, near the 20-meter ham band. This was in order to contact North American 20-meter band ham operators.

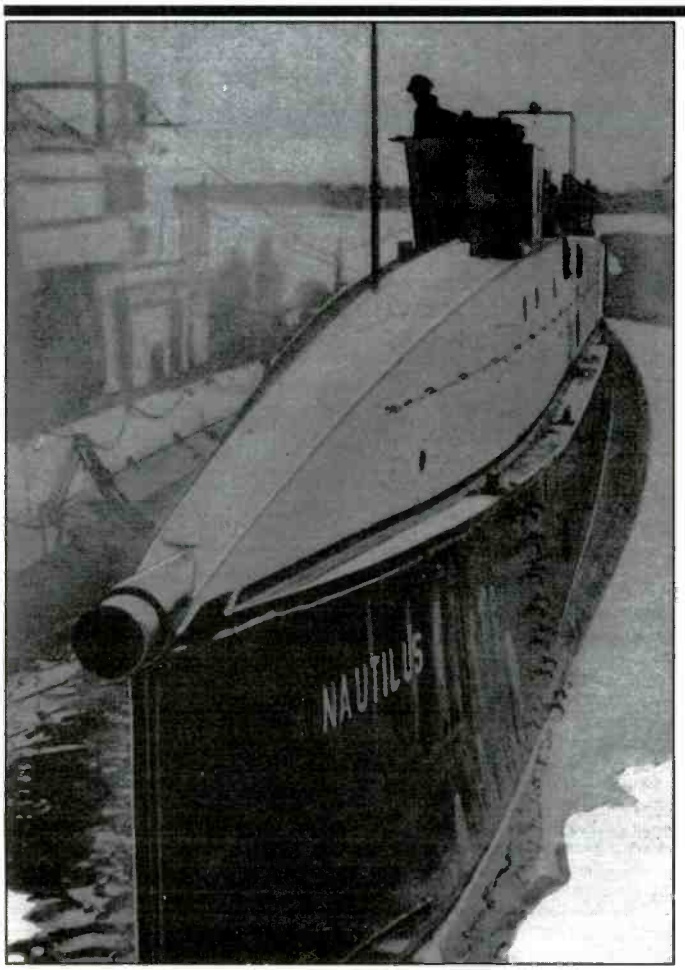
Regarding communications from the Arctic, Brooks later observed that contacts with American stations were often drowned out by the Northern Lights display. Meanwhile, he noted that mediumwave broadcast band signals were "remarkably increased in intensity, making reception stronger than usual. At other times, exactly the reverse would be true, so that getting a signal through regularly was often an elusive effort in keeping it at its original strength was truly little less than magic."

When propagation was good, shipboard reception brought in transatlantic telephones, hams in North and South America, and in Europe. There were good signals from AM broadcasters KOA, KDKA, WEAF, WJZ, WEEI, WGY, and WTAM, among others. CW signals were logged from Russia, England, Germany, Spain, and Italy.

The expedition started out in Wiscasset, Me., then sailed northward. Cruising north from Nova Scotia, and entering the territory affected by the Aurora Borealis and other magnetic disturbances (such as iron ore deposits in the ground), Brooks reported "all signals were materially affected, making it more difficult to maintain two-way communication."

Sailing north from Nain to Port Burwell, conditions improved and were clear for about a week. Running along the coast of

A view of some of PW's Hicksville, N.Y., facilities is seen on this 1938 QSL for one of their experimental transmitters. (Courtesy Ed Bailey, Conn.)



The research submarine Nautilus prepares for its 1931 polar expedition.

The 200-watt G.E. transmitter aboard the research submarine, Nautilus.

Labrador, reception weakened, but improved upon reaching open water to the north. Good reception was observed crossing Hudson Strait and in the Savage Islands. From there, the course went to Frobisher Bay, where conditions became poor due to the iron content in the hills to the south and west.

Notwithstanding propagation difficulties, WDDE made daily observations of the NAA time signals from Arlington, Va., in order to calibrate the ship chronometer, and to use with other scientific instruments for exact location and precision survey work. WDDE also managed to make nightly contacts with ham operators in Cincinnati and Chicago.

Another bold 1931 Arctic foray also made extensive use of communications. This was the 1931 Wilkins-Ellsworth Trans-Arctic Submarine Expedition, under the guidance of British explorer Sir Hubert Wilkins (1888-1958). The plan was to travel from Spitzbergen to Point Barrow, but that was the easy part. The American research submarine *Nautilus*, Wilkins' privately owned and modified former U.S. Navy craft, was to boldly make the trip *entirely beneath the ice sheet of the Arctic Ocean!*

Wilkins never bothered to detail the heritage of his submarine, but my research indicates it must have been the former *USS H-2, ex-USS Nautilus, SS-29*. Commissioned by the U.S. Navy in 1913, in 1919 this was the first vessel ever to transmit a signal from under water. The Navy decommissioned the *H-2* in October, 1922, and struck it from the Navy List in December, 1930. Official Navy records show the *USS H-2* was sold for scrap. Looks like it took a detour before heading to the scrap yard.

During the polar portions of its 1931 underwater Arctic expedition, most communications would be possible only by boring a hole in the ice pack (as much as 15-feet thick) in order to project the antenna from the submerged vessel. A special drilling apparatus was required. Methods of sending messages while the boat was submerged were considered military secrets, however were being given to the expedition for emergency use.

Nautilus was assigned the call letters WSEA, and a 200-watt transmitter was installed. The working frequencies 5555, 6620, 8290, 8450, 11110, 13240, and 16660 kHz were authorized. Frequency 13240 kHz was also used by WDDE.

The Wilkins Submarine expedition was described in Sir Hubert's book, *Under The North Pole* (1931).

Nautilus sparks Ray Meyers, ex-W3AJZ, at the vessel's instrument board.

Ah, the romance of radio! Seems right out of *Indiana Jones*, except that it all really happened!

That's our report for April. Thank you for being with us. Always seeking items for use in future columns. We look for old time radio and wireless photos, picture postcards, QSL letters and cards (good copies will do), station rosters, news clippings, plus any personal memories or anecdotes.